MOTD

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The International Newsletter of the OS-9 Users Group *Jan/Feb 1989*

President's Column

by Dave Kaleita

Another year is quickly coming to an end which means that it is once again time to elect a new batch of officers to run the OS-9 Users Group for the following year. Actually, this is the FIRST time in the UG's history that the membership will actually have a CHOICE for who they want to run things. I suppose this is a good sign- perhaps this is the first time in a long while that there has been this much confidence that the UG is (finally) on the right track. Don't get me wrong, there is still a LONG way to go before all of the UG's problems have been completely solved. But this is the closest we've ever come to total financial and political health. I predict that, unless the next bunch of guys REALLY screw it up, we'll be a pretty lean and mean operation by this time next year.

Elsewhere in this issue I have attempted to compile a bit of information on each of the candidates for 1989 office, based on the autobiographical data that most of them sent to me. Unfortunately, not everyone was able to find the time to get their information to me before the publication deadline of this issue, so I've had to rely on my own memory a bit. But I think you'd rather have incomplete information than none at all when making your choices for 1989.

If you've glanced back to the election ballot enclosed in this issue, you have probably noticed that you don't see my name listed anywhere. Well, as you have correctly guessed, I will not be running for any office for 1989. Why? Because I need some time off to pursue other things for awhile. Those of you who have been following the OS-9 Users Group from its beginning in August of 1982 will recall that I have been involved continuously since the very beginning (specifically, I am founding member #7). In 1983 I accepted the appointment of Librarian to coordinate the UG Public Domain Software Library. Carl Kreider soon volunteered to help me out with the effort and, in the next three years, we had done our best to put together a pretty neat library. When

Cont Page 2...

Treasurer's Report ....

George Dorner

Finances of the OS-9 Users Group are slowly and steadily coming under control again. This will be a capsule report. Any member who wants a detailed financial report of the UG may receive one by sending a SASE to me at the address listed.

We have two checking accounts in which UG funds are kept. The main one is with the Commerce Bank of Kansas City. Most of the income and disbursements flow through this account. An account is also held in the Farmers National Bank of Annapolis. The purpose of this account is to support publication of the MOTD. Disbursements are made from it by the Editor and reviewed by me.

The Commerce Bank account showed a balance of $1094.46 on the October report. Since then we have deposited $1584 in checks received for memberships and diskettes. In the same period, we have written checks for $1514.35. In addition, $1,100 of receipts taken in at the Princeton RainbowFest have been deposited directly in the Maryland MOTD account. The balance in that account as of October 31 was $1088.69. I am transferring a check for $300 to that acount for publication of the issue you have in hand.

We still have obligations to Falsoft and to Frank Hogg remaining from the "badness" the OS-9UG experienced several years ago. As our assets and projected cash flow permit, we make payments on these obligations. At the moment, the remaining obligation to Falsoft is around $5,000, and we think the amount owed Frank Hogg is less than $1,000. We are most appreciative of the flexible position both parties have taken with respect to the debts. Without their cooperation and support, the UG would be out of business.

On the bright side, the renewals are flowing in, a strong response to the special mailing which was made recently to those who were overdue. Also, I have received checks from more than half who received the special request I made to those who had sent bank card orders which, due to our fiscal problems, we could not collect. This was a real inconvenience to some members, notably our Canadian and overseas members. Thanks to you folks for your patience and understanding. We hope to get that patched soon, but please don't use your charge cards with OS-9UG orders until we give the word.

We have some specific fiscal goals for next year. I plan to share those in the next MOTD. I would be glad to discuss the financial status of the organization with anyone who is interested. Drop me a note on CompuServe, 70536,106 or Delphi,OS9UGTRES, or to George Dorner, P.O. Box 8251, Rolling Meadows, IL 60008.

OS-9

ELECTION ISSUE!

Four Drives for CoCo

By Bob van der Poel

I recently acquired two double sided 80 track drives for my CoCo. Running them under OS-9 is no problem; however I also wanted to run my two existing 40 trackers--a total of four double sided drives (a total of two meg of online storage). The short answer to the problem is that you can't do it. The disk controller for the CoCo only recognizes three drive select lines (Tandy permits four single sided drives by using side select as the fourth drive select, however we need that line as a side select).

So what to do? One solution is to use a hardware switch which will toggle between a 40 and 80 tracker. Workable, but clumsy. The ideal solution would be to get that fourth drive select line working. Again, a hack of the drive controller would be indicated--not something for the faint of heart.

But where there is a will, there is usually a way. First off, remember that there are already three drive select lines being controlled. And three bits (if we consider each line to be a single bit of a binary number) can represent values 0 to 7. Is it possible to "convert" this to drive numbers? Yes.

Here I had to get some help from Robert Devine, my own personal hardware expert. He decided that a simple chip called a 3 to 8 decoder would do the job for us. The chip we used is a 74LS138. We actually built a circuit board, but it should be possible to construct the whole thing right on the drive cable. Here are the hookups:

```
Pin 1 -- drive select 0 (line 10) from the disk controller
2 -- *  * 1  * 12  * * *   *
3 -- *  * 2  * 14  * * *   *
4 -- to +5 volts (chip select)
5 -- to +5 volts (chip select)
6 -- to ground (chip select)
8 -- to ground
12 -- drive select 3 (line 6) to the drives
13 -- drive select 2 (line 14) to the drives
14 -- drive select 1 (line 12) to the drives
15 -- drive select 0 (line 10) to the drives
16 -- to +5 volts (Vcc)
```

Note that this circuit should be placed between the drive controller and the drives. Pins 1,2 and 3 are driven by the controller. The translated drive select information is sent out of pins 12, 13, 14 and 15. Also, you'll have to put 330 ohm pullup resistors on pins 1,2 and 3. Connect the other end of the resistors to +5 volts.

A slight change will also have to be made to the software. The module CC3Disk is the one which actually toggles the drive lines. Somewhere in it is a table of drive select masks. Depending on which driver you are using the actual location of this table will vary. The easiest thing to do is find it with DEBUG. Simply invoke DEBUG and do the following:

```
l cc3disk
```

Debug will respond with a value (eg. 6000). Now find the drive select table with:

```
s . 0102
```

Press enter twice. You should now be at a $04. Type:

```
=3
```

You should now be at a $40. Type:

```
=4
```

Now you can leave DEBUG. Type:

```
q
```

The drive table will now read $01, $02, $03, $04. Now you must verify the module. Do this with either modpatch or verify. Save the modified CC3Disk to disk and cobble a new boot disk with the appropriate drive descriptors and you'll be away to the races.

<<< eof >>>

Presidents Column cont...

the UG had suffered its major financial setbacks in 1986 and Brian Lantz stepped down from his position as President, I was asked to replace Bill Turner as Vice President so that he could take Brian's spot until a more permanent set of officer candidates could be located and election could be held. Unfortunately, Bill Turner declined to run for an office in that next election (which actually occurred in January of this year) and the UG was left with no candidate for President. So I ran (against nobody). I have now served a full year as President (after three as Librarian and one as Vice President) and am ready for a break.

Anyway, I think its time we get somebody who is running OS-9/6809 on a TRS-80 Color Computer to be in charge for awhile. After all, the vast majority of UG members are CoCo owners. I will continue using OS-9/68000 and will be back running for UG office sometime after OSK hits it big- probably when CD-I finally arrives. For now, I am resigning to the fact that OS-9/6809 users are the ones who have the most to benefit from being involved in the OS-9 Users Group at the present time. I'm afraid us OS-9/68K users are just a bit before our time. Let's see how it looks this time next year.

In the meantime, I'll continue to periodically contribute articles to the newsletter and probably get back into working on the Library a bit (it really does need a significant overhaul after remaining relatively unchanged for almost two years now). Carl Kreider has expressed an interest in taking a break from the Library for awhile, so I'll be recommending a replacement for the next President to appoint as Librarian.

So now it's time to vote. As I mentioned earlier, the official election ballot is printed elsewhere in this issue of the MOTD. Please don't forget to put your membership number and the words "ELECTION BALLOT" on the outside of the envelope when you mail it in. The deadline for having your vote counted is March 15th, 1989, so please make sure you mail it to the UG's main address in Tampa in time for us to receive it by then.

Happy Holidays!

Classified

For Sale:

QT computer, 68008 machine with 4 serial and 2 parallel ports. Came with 2 floppies; now has one floppy and room for hard drive of your choice. $850, Qume QVT-102 also available for $125. Call Paul Stimson at 203-744-3053

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1989 UG Officer Candidates by Dave Kaleita

Kevin Darling - running for ***President*** I wasn't able to get complete information on Kevin's background in time for this issue of the MOTD, but to most of us, Kevin's name is pretty well known. Most notably, Kevin has written a book and a number ofarticles about OS-9/6809 (Level 1 and Level 2) for the TRS-80 Color Computer and is one of the assistant sysops on the OS-9 Forum on CompuServe. More recently, Kevin has been dabbling with OS-9/68000 on a borrowed Atari ST computer and has made a pretty neat piece of public domain windowing software available for it. The CoCo 3 running OS-9/6809, however, remains Kevin's min computing interest, at least for the time being. Kevin has been the Secretary of the OS-9 Users Group for two years now (1987 and 1988) and is now willing to give it a try as President.

Hubert G. Schneider III - running for ***President*** Bert Schneider became involved with the OS-9 Users Group back in 1985 when he volunteered to help out with the Library. I quickly recruited him to write a series of articles for the MOTD newsletter for the purpose of reviewing the software which appeared in the UG Library. Those articles ended up being one of the most liked features in the newsletter. Bert has remained an MOTD contributor and is now interested in getting involved with the UG at a higher level. Starting out with an original TRS-80 Color Computer in 1980, Bert now runs OS-9/6809 on what he describes as "a highly modified 512k Color Computer 3 with 20 megabytes of online storage". He has been running OS-9 since 1984 and claims to be proficient at both assembler and high level language programming for the CoCo. Bert is a Captain in the U.S. Air Force, where he has been employed for the last eight years. He received his B.S.E.E from the Virginia Military Institute in 1980 and, more recently, a M.S.E.E. from the Air Force Institute of Technology. He is currently Chief of Systems Engineering of an Electronics Intelligence Branch. In June of 1989, Bert and his family plan to move to Colorado Springs where he will become a faculty member at the Air Force Academy, working in the wind tunnel laboratory and teaching in the Aeronautics department.

Bruce Isted - running for ***Vice President*** Bruce is a self-taught computer programmer/hacker of impressive capabilities. Since 1980, he has obtained on the job and personal experience with CP/M, TRSDOS, MSDOS, the Apple MacIntosh, and OS-9/609 (on a TRS-80 Color Computer). Bruce has also worked with a few single chip microcontrollers, such as the Motorola MC68705 in both hardware and software design. Bruce is currently the President of the Calgary Color Computer Club (his local CoCo club) and is therefore no stranger to the responsibilities a position as an officer of a computer club holds in store.

Greg Law - running for ***Vice President*** Greg was so excited about the announcement that OS-9 was to become available for the CoCo in 1983 that he paid for his copy a full two months before his local Radio Shack store received its first shipments. Soon after receiving his copy, Greg added dual 80 track drives and a hard drive to his setup. His quest for more knowledge of OS-9 led him to the online worlds of CompuServe and Delphi, where he has been very active for the past few years. Eventually, Greg became the Database Manager for the Delphi OS-9 SIG and, in 1987, was promoted to SigOp. Greg has most recently also become an assistant on the Deskmate forum on PC Link.

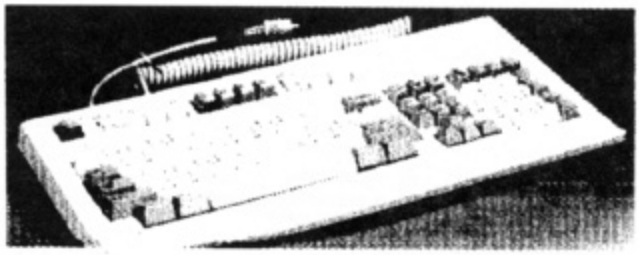
Mark Griffith -running for ***Secretary*** Mark says he has been "using OS-9/6809 on the TRS-80 Color Computer for 4 or 5 years now and enjoying every minute of it". He also claims to have been "hacking at electronics for over 20 years". Mark holds both B.A. and M.A. degrees in psychology from the University of South Florida and is currently employed at Stetson University as ech. Services Mgr. He is a Vietnam veteran (having spent 10 years in the Air Force). Mark is most proficient at writing in the C programming language, but has also written in 6809 assembler and Basic09. He is the author of a number of improvements to the public domain communication programs SLED and SMOD8 and has most recently rewritten Carl Kreider's SMOD8 program to create STERM - presently the only OS-9 terminal software which supports CompuServe's B+ protocol. Mark's goals for the UG are, in his words, "for the group to become the single driving force for OS-9, to educate the world about its virtues, and to see the UG become a clearing house for knowledge, expertise and software for OS-9/6809 and OS-9/68000".

Bill Turner -running for ***Secretary*** Like myself, Bill Turner was also one of the founding members of the OS-9 Users Group, having joined at the UG's first official meeting in August of 1982. Although he served on a number of UG committees continuously since the UG started, his most active period of involvement began in 1986 when he was elected as Vice President under Brian Lantz. When Brian stepped down in 1987, Bill took over as President. He spent most of 1987 and 1988 working on getting the UG paperwork in order and the membership database computerized so that future UG officers could manage it more effectively. Bill's software is used today to keep track of all member records including membership status, disk orders, and the MOTD mailing list. In that Bill's wife is employed by the UG as Correspondence Secretary, Bill has been active in helping answer the mail and dealing with some of the clerical issues. Bill has been employed in the computer industry since 1960 and began his involvement with microcomputers in the late 1970's as Regional Editor for Interface Age Magazine. He is currently employed as Senior Systems Programmer at GTE Data Services in Florida. He is also an advisor for a BSA Explorer Post for young adults which is studying data processing where he is exposing them to OS-9 on CoCo 3 computers.

George Dorner - running for ***Treasurer*** George has been involved with 68XX microcomputers since the early days in the mid 1970's when he built a SWTPC computer kit. In the early 1980's, he began running OS-9 and has used it ever since. He has run OS-9 on many computers, including the "Mill" 6809 board for the Apple II, and 6809 and 680XX systems from Gimix, Hazelwood, Fujitsu and, of course, Tandy. George is currently Dean of Technology, Math and Physical Sciences at Harper College (NW of Chicago) where he still uses OS-9 today. He is an electronic hobbiest actively involved in ham radio (and specifically packet switching) under the call letters W9ZSJ. Another original founding member, George has been actively involved with the OS-9 Users Group since the very beginning. Beginning in 1982, he ran the free online BBS "OSNINE" on a minicomputer at work. He handled the lion's share of the work in running the group in 1983 through 1984 by answering the mail, paying the bills and getting the UG incorporated while holding the office of Treasurer. I asked George to return to his post of Treasurer for the 1988 term when I could not find any other qualified candidates for the position. Unfortunately (for George) this remains the case for 1989. If there is any one person who could be said to be more responsible than anyone else for the OS-9 Users Group still being in existence today, it is George.

OS9boots...

This section is reserved for a special group, new sellers of products of interest to OS-9 Users, especially the "little guys". It is here because the Users Group is always looking for ways to increase the use of OS-9, and although untested by time, these people and companies deserve your consideration. We suggest you give them a try by placing an order or two! Advertisers here are allowed to place an appropriate size ad FREE for one issue, and may repeat the exact same ad for three issues at 1/2 the current best rate. We will do our best to



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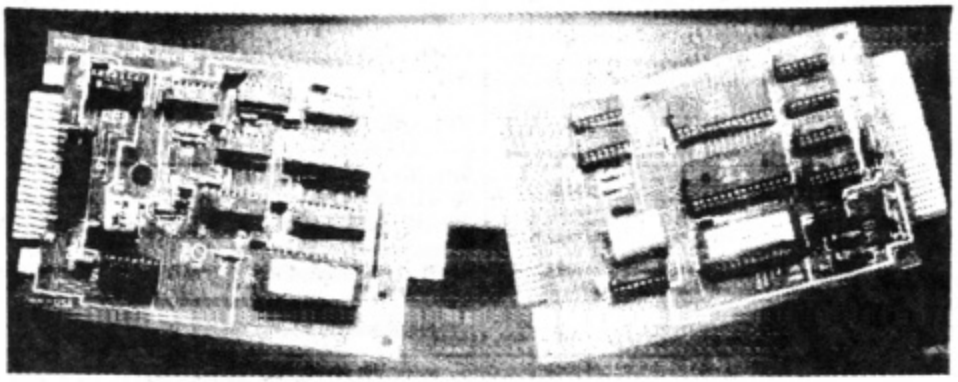

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OS-9 Users Group Membership Information (date accurate as of Aug./88)

The OS-9 Users Group is an international non-profit organization of approximately 800 members (and growing) devoted to exchanging and distributing information about, and public domain software for, all available versions of the OS-9 Operating system. The OS-9 Users Group is the only independent group officially recognized by Microware (the developers of OS-9) as an official voice of its users.

The OS-9 Users Group periodically publishes a newsletter entitled "MOTD" which contains many useful articles, software listings, and other information helpful in keeping OS-9 computing enjoyable and rewarding. Other membership benefits include free technical help referrals (by mail or electronic BBS) and significant discounts on the purchase of individual volumes of the OS-9 Users Group Public Domain Software Library. One year US memberships in the group cost $25.00 for individuals and $150 for companies (corporate membership) and includes a 1 year subscription to the MOTD newsletter, one free disk of public domain software (archive set of entire Library for corporate members), and the right to purchase additional disks of software at a very reasonable cost. The group's public domain software library currently has over 56 individual volumes of software comprised of almost 300 individual programs. The library is constantly growing due to the group's policy of sending one volume (disk) from the library free for each individual program donated by a member. For more complete information on the OS-9 Users Group, including a complete catalog listing of (and ordering information for) all currently available volumes in the Group's public domain software library, visit the OS-9 Forums on either the CompuServe or Delphi or the Tandy Forum on GEnie electronic networks.

To join the OS-9 Users Group, fill out the application form reproduced here (or facsimile thereof) and send to the address at the bottom of the form. Shortly after acceptance of your application for new membership, you will receive a copy of the current issue of the OS-9 Users Group newsletter ("MOTD"), and soon after that, the "starter" diskette, UG Library Volume #0, with software of the type useful in getting you started with both OS9 and the Users Group. Additional volumes in the OS-9 Users Group Library may be purchased at a very reasonable cost at any time after your membership is processed.

Current members who renew their membership will receive a UG "donation credit" post card, which may be redeemed for most UG products and services at any time during your membership.

If you have any further questions regarding the OS-9 Users Group, you should log in on one of the OS-9 forums on CompuServe, Delphi or Genie online networks and contact one of the OS-9 Users Group officers there at the addresses reproduced below, or write to the mailing address given above on the membership application form.

You too can advertise in the OS-9 Users Group Newsletter! The newsletter will be printed periodically in either an 8.5" x 11" (letter size) format, or a 11" x 14.5" (tabloid size) format. The ad cost is the same regardless of publishing format, with the exception that two color ads will only be available in the issues published in the larger format. Contact a UG officer before publication deadline for information about which format the next issue will be in.
Send your camera-ready, or electronic ad copy and a check for payment to the OS-9 Users Group so that it is received no later than the 15th of the month prior to publication month.

Advertising rates are as follows (as of January 1988):

	regular		back cover	
	1-color	2-color	1-color	2-color
full page	$400	$500	$500	$600
half page	$225	$275	$325	
quarter page	$125	$150	$150	$175
eighth page	$50	$60		

Ads submitted electronically may be discounted, see "submisssions" for acceptable formats.

Each member is entitled to place reasonable classified ads free.

SUBMISSIONS

Articles, letters and advertisements will be accepted in the following formats:

VEF, GIF, MACPAINT, MACDRAW, CANVAS, TIFF, PICT, ThunderScan, MS WORD-WORKS, MACDRAFT, READY SET GO!, or Plain text files, ON ANY OF THE FOLLOWING: 5.25" ALL FORMATS EXCEPT 96TPI, 3.5" COCO-ATARI, 3.5" MAC 400K OR 800K, OR VIA E-MAIL TO THE EDITOR ON GENIE OR DELPHI. You can upload to my mainframe, if it is on line, between 8am and 6pm EST User:Guest Password: CIVIL. 1200 baud. Call voice after 6pm. The number is 301 952-1761.

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Ballot

President: *(vote for one)* Kevin Darling [ ] or Bert Schnieder [ ]

Vice President: *(vote for one)* Bruce Isted [ ] or Greg Law [ ]

Secretary: *(vote for one)* Mark Griffith [ ] or Bill Turner [ ]

Treasurer: George Dorner [ ] *unopposed*

membership number: [ ]

Please Vote! Mail you Ballot to the Tampa address. Deadline is March 15th 1989!

Murphy's Law - Hard Disk Drive Directory Tool by Jerry Murphy

One of my infamous laws caught up with me recently when I was upgrading the hard drive system, and the tool(s) I used to keep me from doing it to myself again might be of some interest to others. Besides, Bill Brady has been on my case to come up with another article for the MOTD, and this is a natural.

Several months ago, I added a 20 Meg HD to my Coco 3 system, and shared some of the trials and tribulations with you. At that time, I mentioned I'd be trying to fill it up. Never in my wildest dreams did I expect that to happen so soon! A new 40 Meg Seagate is now on line, and the 20 Meg HD is moving over to my backup Coco 3.

The procedure for starting up a hard drive system may seem cut and dried at first, but there are some pitfalls to look for, as in ANY adventure game. This brief article will hit on only a few hints and kinks for your consideration should you decide to go the hard drive route.

Format and verify will be the first steps, of course. Then the very first thing you'll want on the new hard drive is a boot section. No disk will boot without a CMDS directory which includes shell and grfdrv, so that was my next install chore. The first time I did this, on the 20 Megger, I created a number of directories and subdirectories with 'makdir'. The result was functional, but I soon found directories and files fragmented all over the place. Disk access time was really long, and the noise of the heads seeking all over for what I wanted was very distracting. Next time, I promised, the directories would be sufficient in number, and large enough to accommodate the files.

But how big to make the directory? Is there a choice? The answer is an easy YES! We look at the docs that Pete Lyall wrote for his program 'mkdir', and find the following:

Mkdir in its simplest form merely creates a directory. This can also be accomplished by the 'makdir' command that is delivered with most versions of OS9. It will allocate the default number of sectors to the directory as specified in the device descriptor entry IT.SAS.

Mkdir differs from 'makdir' in that it may be told to override the default number of sectors specified in IT.SAS. Normally, floppy disks are set for an IT.SAS of 8, and hard disks are set for 32. This space is not actually in use, but still 'belongs' to the directory so that attempts to expand it later will not result in rampant disk fragmentation. That is, it has been set aside for future use and is no longer available to the free sector pool.

Capitalizing on this unique feature of mkdir, and being (now) a firm believer in as much automation as possible, I used this program, in concert with dsave and tsed, to create a script file to recover from my earlier poor attempt to create sufficient directory space.

The actual decision to implement mkdir was a fluke, as most things are around here. Before removing the 20 Meg from the system, I made a dsave file to make the chore of copying things from 20 to 40 a bit easier. It will work just as well moving files from floppy to the smallest of destination disks, floppy or hard format. I decided that most, but not all, of what I had on the 20 should move to the 40.

During the editing of the dsave file to remove from it things that would not move from one to the other, I accidentally hit some wrong keys with my fumble-fingers. The result was a deletion of all the files in a particular directory (in the dsave script only). This left me with a few lines that looked like what could be a script for making the directories on the destination in one grand shot.

Removing all the file names from this file, I was left with a long list of makdir and chd commands. A global change made the dsave-generated command of Makdir into Mkdir. Next step was to insert the proper -e values so mkdir would lock a certain number of files into the directory allocation. Some directories now have several hundred spaces, and others only a few dozen. As a rule of thumb, I noted how many filenames are in the directories now, and simply doubled or tripled that number for the -e command. Being always hopeful, the cmds directory has room for 1000 filenames, but apps has only 100, as an example. I was all set to rock 'n roll with it when Keven Pittsinger stopped by with a suggestion.

I had left in the several chd commands generated by dsave. For instance, a few of the lines included: Mkdir CMDS, chd CMDS, Mkdir ICONS, chd .., Mkdir COM, chd COM, Mkdir PRO, chd .., chd .., etc. Too slow and cumbersome, Keven said. Deleting every chd line, and inserting the proper directories in front of the names of the subs, we wound up with: Mkdir CMDS, Mkdir cmds/ICONS, Mkdir COM, Mkdir com/PRO, etc. There were other inserts for the -e numbers, of course.

This script file took less than a minute to execute, and left me with a directory structure in the hard drive just like I wanted, with all the fumbling around done in the making of the scriptfile. I chose not to use some of the several other options in Mkdir, but the user who attempts to use this procedure should first consult the Pete Lyall docs to Mkdir.

The next step was to execute the other dsave scripts to copy the files from source to the new hard drive. In addition to the dsave scripts, I made heavy use of the dsave piping routine you'll find in Dale Puckett's Complete Rainbow Guide to OS-9, on page 160. I also used the piping routine using ls and call that Keven wrote about in an earlier issue of MOTD.

When I executed the dsave piping routine, dsave automatically issued a command to makdir the appropriate filenames. But these filenames assigned to directories already existed, so I got a 218 error. Not too worry, the system cooked merrily along, cloning the 20 to the 40 selectively. And the 40 now does it's thing in remarkably less time, and quieter.

How long before I outgrow the 40 Megs? That's up to YOU! Start hacking!

My special thanks to Chris Burke for a superior interface, to Pete Lyall for Mkdir (and other programs), to Bill Brady for encouragement, to Keven Pittsinger for local help, and to the OS9UG for making it all so necessary.

Jerry Murphy, K8YUW

OS-9 Ole!

High Speed A/D Input for the Color Computer

by Tim Taylor

There haven't a lot of articles showing how Basic09 interacts with machine language, so readers might be interested in some information on an analog-to-digital data acquisition system that reveals some of the principles involved. One of the really nice features of Basic09 is how well it interacts with machine code, so the listings provided here might give some encouragement for those interested in the subject and possibly serve as a template for other Basic09 - hardware - machine code projects.

The circuitry required for the A-D operation described here is very simple, and its connection to a 6522 PIA based I/O port allows the creation of a high performance system. The result lets Basic09 collect 8 bit data at the very respectable rate of up to 30,000 conversions per second on my CoCo I; and a faster computer clock would allow data collection at up to about 50,000 conversions per second.

The A-D circuit is based on a TLC548 A to D chip that has been selling at Radio Shack for about $4. This is a Texas Instruments' chip and also available through their distributors for a price that goes down to about $2 each in quantity 100. The TLC548 is a serial output chip and easy to pass by at first glance, but the 20 usec minimum conversion + read time and it's 1/2 bit accuracy make the chip a lot more attractive when you give it a little thought. Fig 1 shows the circuit for this chip. Miniature multiturn pots work well for the reference voltage adjust, and setting them for 1/2 volt and 3 1/2 volts respectively, provides a 3 volt input range for the A-D that is centered in the linear range of the buffering transistor.

The A-D circuit is built on a card that plugs directly into the I/O port and cable is run out to a small signal conditioning box containing the circuit shown in Fig 2. A flip of it's switch allows the data to be input either as a DC signal with variable attenuation or an AC signal with variable offset. External amplifiers are usually used to connect the system up to a transducer of interest. The A-D circuit of Fig 1 can be hooked up to just about any I/O port, but the secret to a high performance system comes through connecting the A-D chip to a 6522 PIA. The 6522 has an on board shift register that can directly read the TLC548 at high speed. It also has on board timers that make it easy for the software to provide an accurate variable time delay between data conversions.

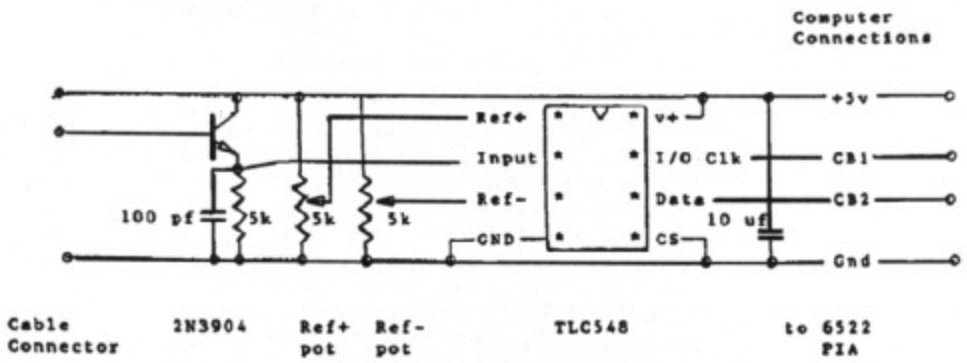


Fig 1 Interface circuit for TLC548 A-D chip.

Those people who have been using the Motorola 6821 chip for their interfacing might want to consider a 6522 for their next project. The 6522 is a cousin of the 6821 and differs from it externally by 4 pins. Internally, it has many more on board functions. A possible disadvantage for the 6522 is that it needs 4 address lines rather than the 2 address lines of the 6821. This could make the chip hard to fit into a limited I/O address space.

The software to use this system is straight forward and I've provided a listing of the machine language data collection program as well as two Basic09 listings that show how it is used. When Basic09 calls a machine language subroutine, it puts pointers to the passed parameters and the parameter lengths on the stack. The data collection program just reads the stack to find where to get the information that Basic09 is sending it and how much data to collect and where to put it. Because the data length comes from Basic09, the same data collection program can do a single conversion when asked to fill a byte variable, or any number of conversions when Basic09 sends it a byte array. The two Basic09 listings illustrate how Basic09 uses the data collection program. Both of these are simple digital oscilloscope programs.

The first listing, TESTBURSTG, shows operation in burst mode. It asks the data collection program for an entire array of data then plots the data to the graphics screen, thus allowing high speed data input. If one wants to collect data at a slower speed, it is usually more convenient to collect the data a single byte at a time and update the computer's graphics screen as the data is being collected. The second listing, TESTSLOG, does this. Because 60 cycle noise can be present even at slow scanning rates, it pays to aver-

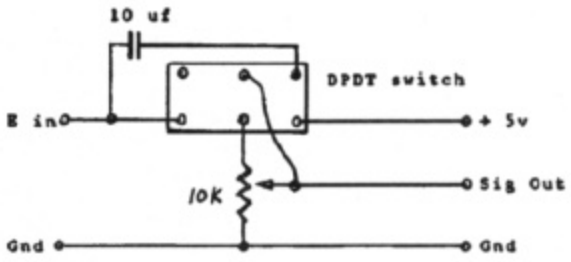


Fig 2 Signal conditioning circuit allows DC in with variable attenuation or AC in with variable offset.

age data over the length of the requested time delay, and this is done in TESTSLOG.

Programs like the ones shown are made to be rewritten, and Basic09 makes it easy to add features for differing applications. To show how well it all comes out in the end, Figs 3 and 4 show the kind of output that the system can produce. The upper plot in Fig 3 is data taken with the A-D system at an 8 khz data rate, and is the modulated voice of a singer.

Plotted below this is the frequency spectrum of the voice, calculated as the amplitude of a Fast Fourier Transform of the data. The spectrum plot has zero at the center and shows the broad lobes of the fundamental frequency and its harmonics as well as the spikes of the closely spaced frequencies that beat together to give rise to the modulation in the voice.

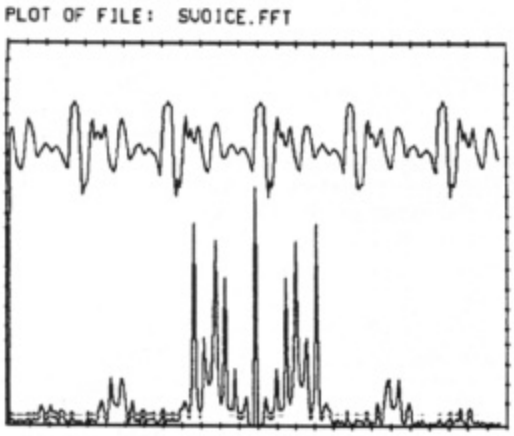


Fig 3 Data plot of a singer's voice and its frequency spectrum.

Fig 4 is an example of data taken at a slow scanning speed. This figure follows the temperature of a small test tube of molten sulphur as it cools down over a 15 minute period; with temperature measured using a thermocouple immersed in the liquid sulphur. The bump shows the sulphur supercooling, then heating up again as it goes through the liquid solid phase transition.

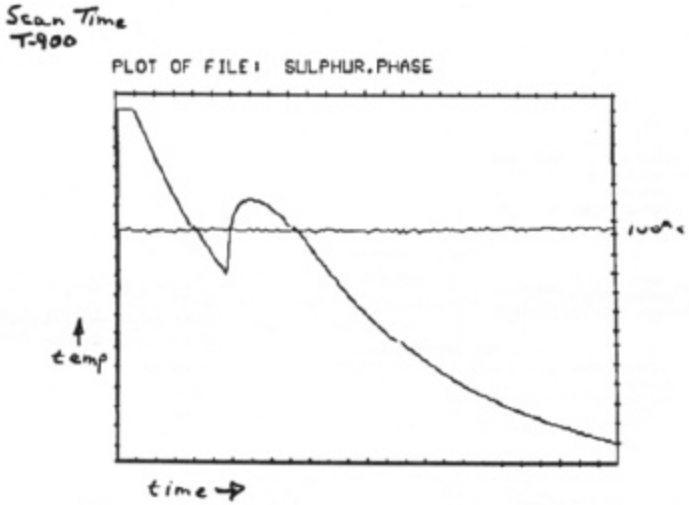


Fig 4 Data plot showing a cooling curve for molten sulphur.

All in all, I think the system described here shows Basic09 off very nicely.

My own applications for the A-D system require that it be fairly portable, so I have packaged the I/O port together with some battery backup static memory in a cartridge. During program development, the cartridge is plugged in parallel to a normal disk drive and acts as a ram disk. When running an application, the cartridge is used in a stand alone mode where OS9 boots off the cartridge and runs using the static memory as a battery disk.

Writing a battery ram driver was straight forward, but I found that I had to hack into the OS9 kernal to get it to do a cartridge boot. I am currently working on a cartridge that will work with the CoCo III (takes slightly different hardware) and casting around for a better way to get OS9 to boot from it.

```
PROCEDURE TESTBURSTG

! Burst mode fills data array
from A-D
! Plots to graphics screen.

DIM A(256):BYTE
DIM Delay:INTEGER
DIM I,J,K:INTEGER
Delay=0
100 REM
RUN SERBURST(A,Delay)
RUN GFX("MODE",0,5)
RUN GFX("CLEAR")
FOR J=1 TO 255
RUN GFX("LINE",J-1,A(J),J-1,A
(J+1))
NEXT J
GOTO 100
```

```
PROCEDURE TESTSLOG

! Slow data collection gets
! single bytes of data,
! averages them and plots
! them to the graphics screen.

DIM I,J,D,DELAY:INTEGER
DIM A,B:BYTE
RUN GFX("MODE",0,5)
RUN GFX("CLEAR")
DELAY=1
D=0

100 RUN GFX("CLEAR")
J=0
B=0
200 REM
AA=0
REM COLLECTION TIMER LOOP
FOR I=1 TO DELAY
RUN SERBURST(A,D)
AA=AA+A
NEXT I
A=AA/DELAY
IF A>192 THEN A=192
ENDIF

REM PLOT NEW DATA
RUN GFX("LINE",J,B,J,A)
B=A
J=J+1
IF J=256 THEN
GOTO 100
```

```
ELSE
GOTO 200
ENDIF


* SERBURST BASIC09 SUBROUTINE FOR AD INPUT
*
*
* TIM TAYLOR
* DEPT. OF PHYSICS, OREGON STATE UNIV.
* CORVALLIS, OR. 97331
* PH: (503) 754-4631
*
*
* THIS PROGRAM IS A SOFTWARE DRIVER FOR
INPUTING DATA FROM
* A LOW COST RADIO SHACK ANALOG-DIGITAL CHIP,
TLC548,
* CONNECTED TO THE SERIAL PORT OF A 6522 PIA
*
* CALLING SYNTAX:
* RUN SERBURST(ARRAY,DELTA)
* ARRAY IS BYTE VARIABLE OR ARRAY
* DELTA IS INTEGER TIME DELAY
* DELTA = 0 GIVES 30KHZ HIGH SPEED MODE
*
* MUST USE GOOD PARAMETERS SINCE
* NO ERROR CHECKING IS DONE FOR HIGH SPEED
*
* FUTURE MODE -- NOT ACTIVATED, SYNTAX:
* RUN SERBURST(ARRAY,DELTA,TRIG)
* TRIG IS BYTE TRIGGER LEVEL
*
*
 NAM SERBURST
 IFP1
*  USE /D0/DEFS/O69DEFS
 USE /D0/DEFS/O69DEFS
 ENDC


* BASE ADDRESS OF 6522 PIA EQU $FF70

IFR EQU $FF7D INTERRUPT FLAG REGISTER
SRR EQU $FF7A SERIAL INPUT REGISTER
ACR EQU $FF7B AUXILIARY CONTROL REGISTER
T1LO EQU $FF76 LO BYTE TIMER REGISTER
T1HI EQU $FF75 HI BYTE TIMER REGISTER
SHIFTCD EQU $08 CODE FOR SHIFT IN


* STACK VARIABLES

 ORG 0
RETURN RMB 2 RETURN ADDR OF CALLER
  PCOUNT RMB 2 NUMBER OF PARAMETERS
  DATALOC RMB 2 DATA ADDRESS
  DATALEN RMB 2 SIZE OF DATA
  DELTALOC RMB 2 DELTA ADDRESS
  DELTALEN RMB 2 DELTA IS INTEGER
  TRIGLOC RMB 2 ADDR OF TRIG
  TRIGLEN RMB 2 TRIG MUST BE BYTE



 MOD ENDPGM, NAME, TYPE, REVS, ENTRY, 0
TYPE SET SBRTN+OBJCT
REVS SET REENT+1


NAME FCS /SERBURST/
ENTRY EQU *

 LDA #SHIFTCD
 STA ACR SETTUP ACR FOR SHIFT IN

 LDD [DELTALOC,S] GET TIME DELAY
 BEQ FASTC DO FASTEST CONVERT IF 0
 STB T1LO SETTUP LOW COUNTER LATCH
* LEAVE HI ORDER COUNT DELAY IN A REG

 LDX DATALEN,S X HAS NUMBER OF BYTES TO GET
 LDU DATALOC,S U HAS DATA LOCATION


* TRIGGER NOT ACTIVATED--PUT CODE HERE


* DO CONVERSION WITH VARIABLE DELAY

 ORCC #$50 MASK INTERRUPTS
 LDB SRR START FIRST CONVERSION
MLP  STA T1HI START COUNTDOWN
CLP LDB IFR
 ANDB #$40 CHECK T1 END
 BEQ CLP REPEAT IF NOT TIMED OUT
 LDB SRR

 RORB FIX BIT 7 FROM SHIFT REG
 BCC SET 6522 SHIFT LOGIC IS
 ORB #$80 NOT QUITE COMPATIBLE
 BRA ENDF WITH TLC 548 LOGIC
SET ANDB #$7F
 BRN ENDF

ENDF STB ,U+ STORE THE DATA
 LEAX -1,X
 BNE MLP
 ANDCC #$80 RESET INTERRUPTS
 RTS


* DO MAX SPEED DATA CONVERSION HERE
* SAME AS BEFORE BUT SKIPS TIME CHECK

FASTC LDB SRR START A CONVERSION
 LDX DATALEN,S NUMBER OF BYTES TO GET
 LDU DATALOC,S DATA LOCATION
 ORCC #$50 MASK INTERRUPTS
FLP LDB SRR

 RORB FIX DATA
 BCC FSET
 ORB #$80
 BRA FEND
FSET ANDB #$7F
 BRN FEND

FEND STB ,U+ GET DATA
 LEAX -1,X
 BNE FLP
 ANDCC #$80
 RTS


 EMOD
ENDPGM EQU *
 END

021         TYPE    SET  SBRTN+OBJCT
00061  0081         REVS    SET  REENT+1
00062
```

From the Editor

Time Flies! (especially when waiting for mail labels). A year has gone by since I began Editing the MOTD. It has been fun, but a lot of hard work also.

You may wonder why the editor and librarian do not show up on the ballot elsewhere in this issue. The reason is that the editor and librarian are appointed by the president, not elected.

Since we will undoubtedly have a new president after the election, this may be my last issue of the MOTD. (the new President may appoint someone else, or I may not choose to continue under the new officers.)

Just in case this is my last issue, I would like to take the opportunity here to interject a personal note or two.

By and large, I am super impressed with OS-9 UG members. You are really a terrific group of folks. Your letters and submissions have been first rate! Many of you have, and continue to, work very hard to further our favorite OS. I am exposed to other groups that I consider 1/2 rate compared to you. But then again, mayhaps that is just a reflection of the quality of our OS-9.

Many things that I thought would happen this year have not come to pass. Some of the things that I have told you about have only been delayed, others have ceased to exist. For example, two of our OS-9Boots new business have seemingly faded into the sunset. (er... sunrise actually)

On the other side of the coin, those who offer quality products are reporting that 1988 was the best year ever for OS-9 related sales and user support. In my own case, the Wiz Pro shareware offering is doing extremely well, and almost all of the letters I have received have been enthusiastic and generous in their praise.

The important thing for us to remember is that we must continue to spread the word through 1989!

MUST HAVE!

On the must have list is Bob Puppos IBM keyboard adapter. I have been using one for over a year. This is about the best thought out and designed product I have ever seen for a computer. It works! and yes, you can put the CoCo and that *&%$#@*%$# Multi-Pak adapter anywhere you want to.

Bob has decided to offer his adapter direct to UG members at a slightly lower price than through 'normal' channels. (yes, this is the same adapter). Bob has a goodly supply on hand right now so *get it before he runs out!* *See page 3*

OS-9 Users Group Software Library Order Form

(For Members of the OS-9 Users Group ONLY)

FROM... Member Number: [ ]

Name: _____

Address: _____

City, State, Zip: _____

Telephone Number(s): _____

Computer Disk format Type (A, B, C or D - from instructions):
Format Code(s) of floppy disks you can read (1, 2, 3, 4, 5 and/or 6 - from instructions):

Quantity:	Volume # **	Format: Type:	Format: Code**	Price: Each**	Price: Total:

Total Individual Disks: [ ]

** *Note: Information indicated by a "**" above should be taken from the current UG Library Volumes listing, as reproduced in the UG newsletter."*

Order Archive Set of Entire UG Library below (available as multiple set of disks in format code #6 ONLY):

Quantity:	Volume #:	Format: Type:	Format: Code:	Price: Each:	Price: Total:
	Archive	A	6	$100	
	Archive	B	6	$120	
	Archive	C	6	$130	
	Archive	D	6	$110	
				Total Archive Sets:	

Total Payment enclosed: [ ]

Please write us if you deeperately need any of the above disks in any format other than the ones we currently offer (such as 8" disks, other formats, etc.). We may be able to put you in touch with another volunteer UG member who could do the conversion for you.

Master Card # [ ] Expiration Date [/]
Visa Card # [ ] Expiration Date [/]
Signature: _____ Date [/ /]

Make all checks payable to "OS-9 Users Group"
Send disk order to: OS-9 Users Group
ATTN: DISK ORDER
1715 East Fowler Ave., Suite R237
Tampa, FL 33612

Please allow 6 weeks before inquiring about your order.

Application for New or Renewal Membership in the OS-9 Users Group

RENEWAL membership, please supply your membership number: [ ]

Type of membership applied for: [ ] Corporate [ ] Individual

Name: _____

Company Name (for Corporate memberships only):

_____

Address: _____

City, State, Zip: _____

Country: _____

Telephone Number(s): _____

Type of Computer System you are running OS-9 on:

Format of OS-9 floppy disks you can read (please check all that apply):

5.25" [ ] 8" [ ] 3.5" [ ] Single-Sided [ ] Double-Sided [ ]
Single-Density [ ] Double-Density [ ] Hi Density [ ]
Number of tracks per side (35, 40, 80, etc.) [ ]
FORMAT Microware [ ] CoCo [ ] Atari ST [ ] Mizar [ ]
Other OS-9 Format (please describe):

ELECTRONIC ADDRESS(S): CompuServe #: [ ]
Delphi : [ ] GEnie: [ ]
BIX : [ ] UseNet : [ ]

Would you be willing to volunteer your time and effort to work on one of the OS-9 Users Group's committees or run for an office? If so, please describe the capacity in which you would like to get involved:

[ ] Check here if you DO NOT want your name and address printed in a member directory.
[ ] Check here if you DO NOT want your telephone number given out to other OS-9 Users.

Number of years membership you are enclosing payment for: [ ]

INDIVIDUAL MEMBERSHIPS IN THE OS-9 USERS GROUP ARE $25.00 PER YEAR, (overseas $30 US), CORPORATE (COMPANY) MEMBERSHIPS ARE $150, (overseas $160 US), PER YEAR

(sorry, but the Library archive set is presently only available on 5.25" ds dd 80 track or 3.5" ds OS-9/ST format disks)

(The OS-9 Users Group is a non-profit organization, any other charitable donations will also be gladly accepted.)

Total Payment enclosed: $ [ ]
Method of payment: [ ] Check Number [ ]
Master Card # [ ] Expiration Date [/]
Visa Card # [ ] Expiration Date [/]
Signature: _____ Date [/ /]

Make all checks payable to "OS-9 Users Group"
Send application to: OS-9 Users Group
ATTN: MEMBERSHIP
1715 East Fowler Ave., Suite R237
Tampa, FL 33612

Please allow 4 to 6 weeks before inquiring about your application.

Instructions For Ordering UG Library Disks

PLEASE READ CAREFULLY BEFORE SENDING IN YOUR DISK ORDER!!

1) Note what type of computer system you are running OS-9 on. Theoretically, all OS-9 systems should be able to read one or more of the following format disks:

Type "A": Standard Microware Format (track 0 is single density and 10 sectors per track, all other tracks are 16 sectors long; 0 sector offset)
Type "B": Tandy Color Computer Format (all tracks are double density and 18 sectors long; 1 sector offset)
Type "C": Atari 3.5" Format (Micro-Floppy 3.5" disks, 80 tracks, all tracks double density and 16 sectors per track; 0 sector offset)
Type "D": OS-9 Users Group format (all tracks are double density and 16 sectors long; 0 sector offset)
This format is sometimes referred to as "Mizar format".

2) Determine what type of floppy disk drives you have on your OS-9 computer system. The available choices are...

Code	Type "A" Std. OS-9 Format: (5.25")	Type "B" CoCo OS-9 Format: (5.25")
1	35 track ss sd	35 track ss dd
2	35 track ds sd	35 track ss dd
3	40 track ss sd	35 track ss dd
4	40 track ds sd	40 track ss dd
5	40 track ds dd	40 track ds dd
6	80 track ds dd	80 track ds dd

Code	Type "C" Atari OS-9 Format: (3.5")	Type "D" OS-9 UG / Mizar Format: (5.25")
1	80 track ss dd	40 track ss dd
2	80 track ss dd	40 track ss dd
3	80 track ss dd	40 track ss dd
4	80 track ss dd	40 track ss dd
5	80 track ss dd	40 track ds dd
6	80 track ds dd	80 track ds dd

KEY: ss=single sided, ds=double sided,
sd=single density, dd=double density

For reference, it should be noted that some OS-9 UG media format codes equate to certain official Microware media format codes. In particular, the following equivalences are noted:

Media Format Codes

Microware Systems		OS-9 Users Group
5403	...is equivalent to...	A5
5803	...is equivalent to...	A6
3807	...is equivalent to...	C6
5407	...is equivalent to...	D5
5807	...is equivalent to...	D6

Also note that the following Microware standard disk formats are also available by special request. Please do not order them unless it is the ONLY format you can use on your computer:

Microware Systems		OS-9 Users Group
3803	...is equivalent to...	C6a
38W7	...is equivalent to...	C6b
58W7	...is equivalent to...	D6b

Choose the OS-9 Users Group format codes above which represent the formats of disks you know you are able to read. For example, most TRS-80 Color Computers can only read formats #B1, #B2, #B3 and (sometimes) #B4 above. This indicates that a person with a stock Color Computer should be careful to only order Library volumes with these format codes. DO NOT ORDER LIBRARY DISKS WITH FORMAT CODES OTHER THAN THE ONES WHICH YOU KNOW YOUR SYSTEM IS ABLE TO READ!

3) Choose the Volume Numbers of the individual disks you would like to order, carefully noting the format code of each volume you would like to order. IF THE FORMAT CODE OF THE DISK YOU WOULD LIKE TO ORDER DOES NOT MATCH THE CODE OF A FORMAT YOUR COMPUTER SYSTEM IS ABLE TO READ (as calculated in step 2 above), YOU SHOULD NOT ORDER THAT VOLUME!! Yes, this means that it is possible that a disk you want may not be available in a format you can read. This is sometimes necessary when an individual program on a disk is too big to fit on a small format disk. In particular, it should be noted that Volumes #2, and #49 cannot be used on most TRS-80 Color Computers. Care should also be taken before ordering Volumes #6, #19, #39, #47, #55 and #56 (and any others whose format code is 4 or greater). Also note that the multi-disk "Archive Set" of the entire UG Library is only available on 80 track ds dd disks (format code 6) ONLY and can therefore not be used on a stock TRS-80 Color Computer.

4) Prices for individual volumes are as follows (as of April, 1988):

	Types "A","B" or "D" (5.25")	Type "C" (3.5")
1	$6.00 each	$8.00 each
2	$6.00 each	$8.00 each
3	$6.00 each	$8.00 each
4	$6.00 each	$8.00 each
5	$6.00 each	$8.00 each
6	$10.00 each	$10.00 each

NOTE: PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE! Orders received 30 days or more after an official price change (as announced in the MOTD newsletter) are subject to the new price schedule. Orders sent with insufficient payment will be returned unprocessed unless specific instructions to do otherwise are included with the order.

5) Fill out the order blank reproduced in this issue (or facsimile thereof) with all of the necessary information.

OS-9 Users Group Software Library Volumes - 8/88

No.	Done?	Title:		Format:
0.09	Y	New Member Intro		3*
1.01	Y	Spelling Checker (Improved; 6809 & 68K)		4
2.02	Y	Spelling Dictionary (102,681 words, 6809 & 68K)		5
3.01	Y	Word Processing Utils		1*
4.01	Y	Programming Utilities		1*
5.00	Y	File Processing Utils		1*
6.02	Y	Adventure Game (source)		4
7.02	Y	Adventure Game (object)		3
8.00	Y	General Interest (demo, games, finance)		1
9.00	Y	C Programmer's Tool Kit		3
10.00	Y	Math & Electronics		1
11.00	Y	Word Processing Utils	(disk #2)	1
12.00	Y	Programming Utilities	(disk #2)	1
13.00	Y	File Processing Utils	(disk #2)	1
14.03	Y	File Maintenance		1*
15.01	Y	Communication		1
16.00	Y	Hardware Customizations		1
17.00	Y	Basic09 Programmer's Tool Kit		1
18.00	Y	System Utilities		1
19.01	Y	Languages 1: XLisp (source)		4
20.00	Y	XLisp (object)		1
21.00	Y	File maintenance	(disk #2)	1*
22.00	Y	Programming Utilities	(disk #3)	1
23.00	Y	File Processing Utils	(disk #3)	1
24.01	Y	General Interest	(disk #2)	1
25.02	Y	Word Processing Utils	(disk #3)	1
26.01	Y	C Language Math Library (6809 only)		3
27.01	N	<undefined>		
28.00	Y	68K Utilities		1
29.00	Y	File Maintenance	(disk #3)	1
30.00	Y	File Processing Utils	(disk #4)	1
31.00	Y	Hardware Customizations	(disk #2)	1
32.00	Y	Hardware Customizations	(disk #3)	1
33.00	Y	System Utilities	(disk #2)	1
34.00	Y	Hardware Customizations	(disk #4)	1
35.00	Y	System Utilities	(disk #3)	1
36.00	Y	General Interest	(disk #3)	1
37.01	Y	Communication (6809 & 68K Kermit)	(disk #2)	2
38.00	Y	Programming Utilities	(disk #4)	1
39.00	Y	Communication (Freeware)	(disk #3)	4
40.00	Y	System Utilities	(disk #4)	1
41.00	Y	Programming Utilities	(disk #5)	1
42.00	Y	Coco Graphics		1
43.00	Y	System Utilities	(disk #5)	1
44.01	Y	Communication (Smod8)	(disk #4)	1
45.00	Y	Coco Graphics	(disk #2)	2
46.00	Y	Text Processing Utils (Sled)		2
47.00	Y	Text Processing Utils (68K Runoff)	(disk #2)	4
48.01	N	<undefined>		
49.00	Y	Text Processing Utils (MicroEMACS)	(disk #3)	5
50.00	Y	68K Utilities	(disk #2)	1
51.00	Y	68K Utilities	(disk #3)	1
52.01	Y	Math & Electronics	(disk #2)	1
53.00	Y	68K Utilities	(disk #4)	1
54.00	Y	File Maintenance	(disk #4)	1
55.00	Y	Text Processing Utils (QED for L2)	(disk #4)	4
56.00	Y	Data Base Management (SDB for L2)		4

1) All of the above volumes are available in Microware standard, Atari ST 3.5", TRS-80 Color Computer and OS-9 UG/Mizar formats. When ordering, be sure to specify only formats that you KNOW you can read on your computer! Please remember that some volumes of the Library will not fit on all formats of disk. If you do not specify the format you desire, you will be shipped either OS-9 UG standard 5.25" format (i.e., "TYPE "D"), or the format we have on file or you (as specified by you on your membership/renewal application). Please note that 8" disks are no longer available directly from the UG.

2) Volumes which are not metioned above, or are marked with a "N" in the "Done?" column, are NOT AVAILABLE at his time. Orders for unavailable volumes will not be processed.

3) Send orders to the main UG address, making sure the envelope is clearly marked "ATTN: DISK ORDERS". Orders marked anything other than "DISK ORDERS" may be delayed an additional 4 to 6 weeks. DO NOT ADDRESS YOUR ORDER (OR CORRESPONDENCE ABOUT YOUR ORDER) TO "LIBRARY" OR "LIBRARIAN".

4) The ENTIRE OS-9 UG Library is presently available in a special multiple set of 80 track (96 tpi) double-sided double-density OS-9 format disks (UG format code "#6" ONLY). Please note that this set contains all software that is presently contained in the UG Library EXCEPT he spelling dictionary, which is ONLY available on the ndividual Volume #2 library disk.

Orders will be accepted from MEMBERS ONLY.

Home Publisher Review

by Al Fleagle

STANDARDS, STANDARDS, STANDARDS!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

Ok, so I can't claim to never have broken any rules, but I think the authors of Home Publisher should be ashamed they broke so many. Why am I ranting? Why do I rave? Why is there no hope for future generations? Because Home Publisher + hard disk + Multi-vue = #!$"#$#$&%&%$#.

Alright, I'll concede that if you want to copy the ENTIRE CMDS directory from the Home Publisher disk to your hard disk execution directory it is POSSIBLE to get Home Publisher to run under Multi-vue on a hard disk. (Be sure first to boot from the Home Publisher disk and save 'ls' and 'time' to your hard disk cmds directory.) Make yourself a nice little icon, (I have one if anyone's interested,) and set up an AIF file. Then it should work.

So, what's wrong with that? EVERYTHING!!!!!! (This is the part where the program's authors say I'm overreacting and poison my dogs.) First, I HATE!!!!! doing a dir on my execution directory and seeing miles of Home Publisher files go scrolling past and past and past and past and past and ..... What was I looking for anyway? '&'&Y$%&"#$!!!

You wouldn't think a measly 70 files could mess up a directory so much. (Remember, that's before you save any files of your own.) Why save data to your execution directory? WHY???????

One of the strengths of OS-9 is the separate execution and data (working) directories. That way you can put data in a data directory and executable programs in the execution directory. I guess the authors were asleep in class that day.

I've been pondering a way to keep all these Home Publisher files out of my execution directory and still use a Multi-vue icon and AIF file. At first I thought, "No worries!" (I just got back from Australia.) All I have to do is copy 'Publish', 'ls' and 'time' to /h0/cmds, start Home Publisher (from the icon I made), click on the options menu, go down to system setup, click there, go over to the next pop up window and click on "Starting Drive/Directory", type /h0/cmds and Whammo!, we're off and running. WRONG, WRONG, WRONG, WRONG!!!!!!!!!!!!!! The Ugly Evil of Error 216 (file not found) raises its hideous head. It can't find sys.ldfnt. Ok, I'll copy that one to /h0/cmds too! Rewind and try it again. NOT YET, STUPID. It can't find sys.setup. Copy it to /h0/cmds, drop back and punt. NOOOOOOOOOOOO!!!!!!!! It can't find sys.defaults. Right. I'm not stupid, I'll just copy all seven of the "sys" files to my "/h0/cmds" directory. (I can live with ten additional files in my execution directory.) This is it! I've got it. It'll work. I can feel it in my bones.

No worries.

No worr.....WORRY! When I try to load a page I get a blank window, no menu items. OK, I'll click at the top of the pages menu on "Directory:" and change it. ALRIGHT! I've got the pages showing up in the window. Now I'll load a previously prepared page. WHAT THE HEY? Error 216? It can't find fnt.compu16! Do I want to copy 14 more files into my execution directory? Do I have a choice? I can't seem to change the directory in the fonts window. Alright, I'll do it. As I sit here watching my drive light flash I'm wondering why the page menu could change directories but the fonts menu cannot. Oh well, its done. I've copied the 14 fnt.* files to /h0/cmds. Let's see, that's 24 files in my execution directory to run one program. ECCHHH! Life's not perfect I guess. Let's see, I need a graphics image in the corner there. Click on commands, click on image, up pops the image menu and it's EMPTY!!!!!! I try clicking on "Directory:" at the top of the window and it disappears.

NO. I'M NOT GONNA COPY 70 FILES TO MY EXECUTION DIRECTORY! I'M NOT GONNA DO IT!!!! NOOOOOOOOOOOOOOO!!!!!!!!!!

"Feeling better now?"

"Sure, doc. Thanks."

"The sedatives are taking effect. You'll be asleep soon."

"Doc?"

"Yes?"

"Could you maybe loosen this straitjacket just a little?"

"No."

If you could follow the preceding train of consciousness, you undoubtedly got the impression its difficult to make Home Publisher work with Multi-vue. This leaves us with three options: 1) Use Home Publisher without Multi-vue. 2) Write a better program. (That's beyond my capabilities, I've tried.) 3) Silently ignore the incompatibility while religiously crusading that you have the best computer hardware and software in existence (Like the Apple and IBM people do.) In the remainder of this review we will endeavor to pursue option number three.

At long last the loyal fans of the Color Computer can join the ranks of the desktop publishers.

Tandy has released 'Home Publisher', a package which "allows you to produce high-quality newsletters, announcements or any other type of small document using your computer and an ordinary printer." The package is licensed from Spectral Associates and written by David Figge and John Gabbard.

The disk is a double sided floppy with a cryptic little note at the top of the label: "Side A - Front" and "Side B - Back". Only one side is bootable so if it doesn't work, turn it over. There is a startup file which lists the instructions to execute Home Publisher. They are:

At OS9 prompt:

1. Remove Home Publisher diskette Flip it over Re-insert diskette

2. Type: CHX /D0/CMDS [ENTER] CHD /D0 [ENTER] EX PUBLISH >/TERM </TERM >>/TERM [ENTER]

Home Publisher presents a high resolution screen (640 X 192) which displays half the page at once. There are five menu choices across the top: COMMANDS, FONTS, ATTR, OPTIONS and APPROVE. Clicking on "COMMANDS" presents the following options: <See publish2.vef>

View Page - allows an illegible view of the entire page at once and repositioning of the 50% working area. <See publish11.vef>

Define Block - allows choice of a title block, one to three columns or quick designs already stored on the Home Publisher disk. The manual forgot to tell you how to use them so I'll tell you how my sister in New Orleans discovered a way to do it. The quick designs are used by placing the pointer on the dotted line where you want to add a name. When you press the mouse button the blank lines will flash like a menu item. Then you must use the left arrow to backspace and eliminate all the blank line characters. When you do this the blank lines will move to the left side of the page. Don't worry about this. After you type the name and press <enter> the program will re-center the line. Apparently there is no easy way to create and save more qui

designs to disk. <See Publish3.vef>

Parameters - allows adjustment of block location, margins, font size, line spacing, justification and proportional spacing. Save Page - saves current file to disk either as old or new file. Load Page - loads previously saved file. Read Text - reads a standard ASCII file as text input. Image - reads a graphic image file and allows positioning anywhere on the page.

Delete - deletes graphics and text from the workspace or deletes files from disk.

Boundaries - displays text boundaries on screen only. Edit Image - allows for altering, creating and saving graphic images to use in your publications. This is probably the most difficult aspect of the package as the pixels, although enlarged by a factor of four on the drawing screen, are still difficult to select. The images are 80 pixels wide by 40 pixels high. The data is stored in 400 bytes. For those of you who are mathematically inclined, that's 3200 bits. It just happens that 80 X 40 is 3200 pixels. So the images are stored as one bit representing one pixel; zero is off, one is on. The image begins at the upper left corner and reads across the first row then down one line to begin again on the left side of the second row.

Quit - exits Home Publisher.

Clear Page - eliminates everything from the screen.

Print Page - prints page from either screen or disk file and allows choice of borders.

"FONTS" allows fourteen fonts such as blipper, boldblok, bookman, bubble, etc. <See Publish4.vef> <See Publish5.vef>

"ATTR" governs the attributes which modify the font selected. These attributes can be used singly or in combination. They are: "BOLD" - makes the characters thicker. "OUTLINE" - displays the characters as a hollow outline. "ITALICS" - slants the characters. "SHADOW" - prints a shadow on the left and bottom of the characters giving them a 3-D effect. <See Publish6.vef>

"OPTIONS" provides DOUBLE STRIKE on printers which support it, HIGH-RES JOYSTICK if you have the adapter (a MUST for editing images), RGB for an appropriate monitor, COMPOSITE for composite monitors, COLORS to change the foreground or background colors by single-stepping through 64 colors, SYSTEM SETUP <See Publish7.vef> to select the Starting Block Format, Starting Drive/Directory, (which doesn't seem to have any effect), Starting Options, Default Parameters and Printer Definitions, and LIBRARY which is not implemented but is provided for future expansion. This would be my choice of where to include a new conversion program for other graphics formats.

The last menu item at the top of the screen, "APPROVAL" is to indicate completion of selection processes. Clicking on "APPROVAL" will make any changes selected permanent. Clicking on any area outside the menus will close the pertinent windows. Changes may or may not be kept depending on the menus selected.

Home Publisher can be transferred to a hard disk if you're lucky enough, rich enough, or desperate enough to own one. Appendix D, "Using Home Publisher on a Hard Disk", explains the use of "COPYPUB" which will copy Home Publisher to your hard disk. These directories must already exist. I would suggest creating a directory on your hard disk (mine is PUBLISH) and a CMDS directory within it. When COPYPUB prompts for the execution directory type "/h0/publish/cmds" and for the working directory type "/h0/publish".

Now you're ready to go. Change your working directory to /h0/publish and your execution directory to /h0/publish/cmds. Type "PUBLISH" and you get an error message. Or it works for a few minutes then the magic sparkles appear on your screen and you and your Coco suffer a nervous breakdown. OK, what's going on? Well, probably you booted up (unless you used the Home Publisher disk) without "ls" and "time". So how do we fix it? Well, its going to get a little involved so those of you who don't have a hard disk, count your blessings First, boot Home Publisher from the floppy. Set the pointer over "Commands" and press the mouse button. Move the pointer to "Quit" and press the mouse button. You'll be back in a shell. Now save "ls" and "time". You can copy them to your execution directory later.

The simplest solution to the startup solution is to build a startup file like the following:

```
(chx /h0/publish/cmds;chd
/h0/publish;publish h <>>>/1)
```

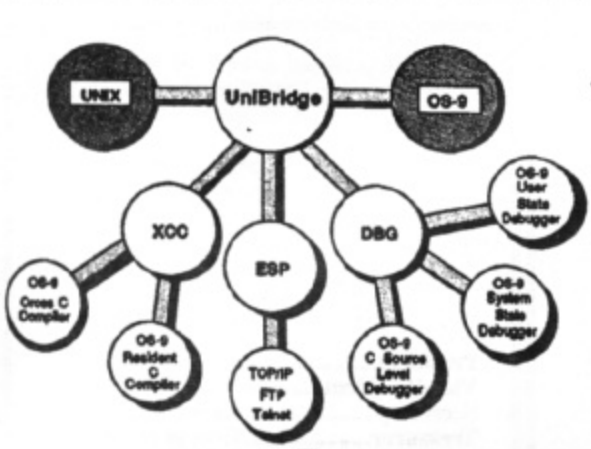
Use 'publish <>>>/1' if you don't have the high resolution adapter. By using "/1" rather than "/TERM" you eliminate any problems if /TERM is already busy. Save this startup file in your execution directory and if you have shell+ you can start Home Publisher from anywhere by simply typing "publish".

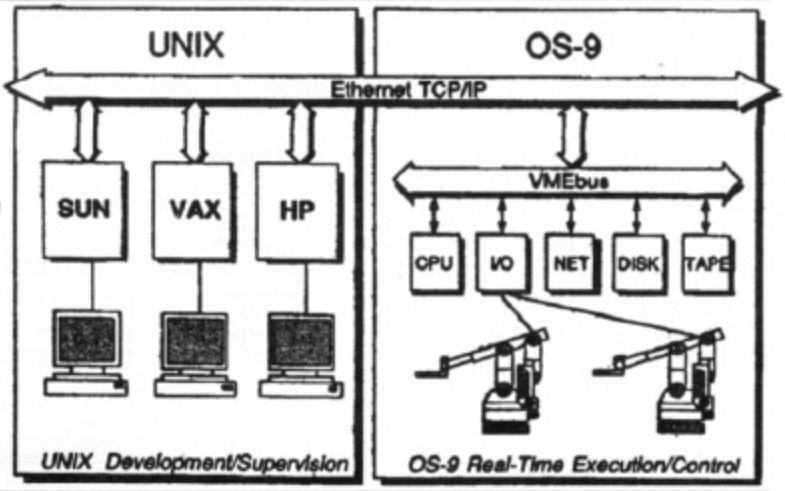
Not mentioned in the documentation is a file included on the floppy disk called PAG.appendE. Load it and read it. It contains a list of all the printer drivers provided with Home Publisher and gives a brief description of each. One printer driver of special note is the DMP130. The DMP130 can only print 480 points horizontally but Home Publisher can output 640 pixels. So the driver for the DMP130 has been modified to compensate for this. In order to use the DMP130 driver, you should format the page columns to three but only use the left two, which means a DMP130 can have two columns of print, maximum. Or you can reset your margins and format the page for only one column. Either will work. Some of you might have the same printer I have, a DMP100 (I think that stands for Dawn of Man Printer, 100 B.C., although I must admit its still twice as fast as chiseling on stone tablets.) You will need to use the DMP130 printer driver which will, as mentioned earlier, limit you to two columns. The smallest print Home Publisher can provide on the DMP100 has capital letters about a quarter of an inch tall. This is very legible but not very compact. However I find it rather remarkable that Home Publisher can support the DMP100 at all. Other recent releases from Tandy have been unable to do so.

Home Publisher also supports the EpsonRX80 and IBM compatible modes when used with a serial to parallel converter. This gives credence to the care with which Home Publisher was researched and written.

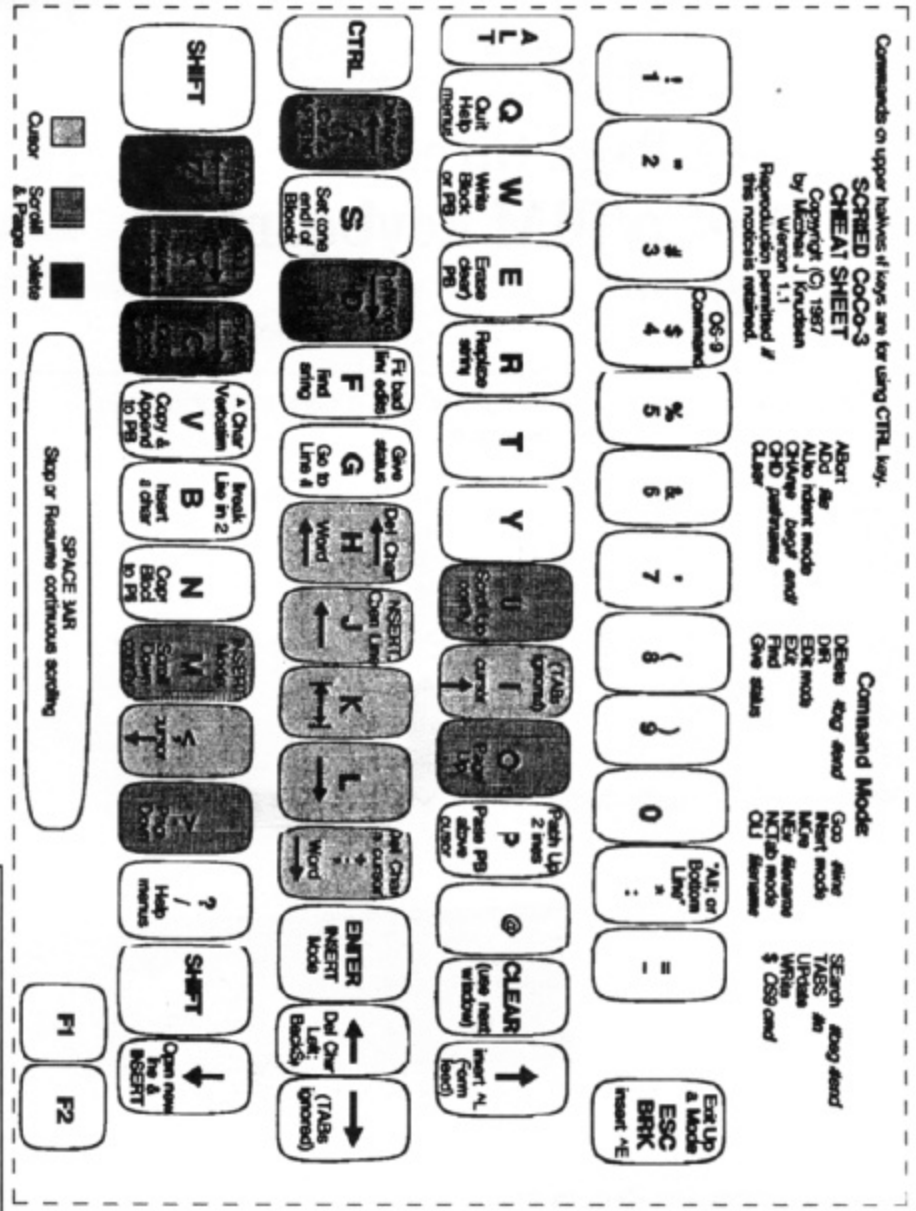
If I were concentrating on shortcomings I'd have to mention that the scroll indicators (a small triangle pointing up and one pointing down) are implemented differently than on Multi-vue where they are set in scroll bars at the side and bottom of the screen. In Home Publisher they are contained in the pop-up menu and are listed as menu items, first and last. I would like to see more standardization. STANDARDIZATION!!!! STANDARDIZATION!!!!!

Although it could have been better, my overall impression is that Tandy





UniBridge!



Home Publisher Cont...

made an good choice in licensing this package from Spectral Associates. If you enjoy printing newsletters, certificates, awards or simply letters with illustrations then Home Publisher is worth the $39.95. (If anyone gets Home Publisher to work with an icon under Multi-vue, will you please write and tell me how?)

Electronic Mail Addresses for Users Group Officers

	CompuServe	Delphi	GEnie
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Pete Lyall Vice President	76703,4230	OS9UGVP	
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Bill Brady Editor	70126,267	OS9UGED	B.BRADY
Dale Puckett Director-at-Large	71446,736	DALEP	D.PUCKETT2

MOTD is published monthly, or at other intervals as required, by the OS9 Users Group Suite R-237, 1715 East Fowler Ave. Tampa FL 33612.

Editor: William L. Brady
1503-I Flanders Lane
Harwood, MD 20776
301-952-1761.

Make checks payable to:
"The OS9 Users Group".

President.....David L. Kaleita
Vice-President.....Pete Lyall
Secretary .....Kevin Darling
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HOT!

See Page three for CoCo/IBM keyboard offer!

Just say NO!

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